

[WHEEL-END AND CENTER AXLE DISCONNECTS FOR AN ELECTRIC OR HYBRID ELECTRIC VEHICLE]

Abstract of Disclosure

This invention is a method and system to disconnect drive wheels from the powertrain of any electric powered vehicle. A vehicle controller monitors input from, for example, an inertia switch and electric motor generator conditions and can disconnect the output shaft from the drive wheels in predetermined vehicle conditions such as during a rear-end collision, or abnormal electric motor conditions such as over-torque, over-temperature, or over-current. The invention can be configured to monitor and respond to driver demand for four-wheel drive, two-wheel drive, and neutral tow. The disconnect device can comprise a disconnect actuator and joint attached to an axle disconnect. The axle disconnect can be electric or vacuum powered and positioned as a center disconnect or a wheel-end disconnect. The invention can be configured for conventional or limited slip axles.

Figures

Figure 1: A line graph showing the relationship between the number of figures and the number of pages. The x-axis represents the number of figures (0 to 10) and the y-axis represents the number of pages (0 to 10). The data points are (0, 0), (1, 1), (2, 2), (3, 3), (4, 4), (5, 5), (6, 6), (7, 7), (8, 8), (9, 9), and (10, 10). The graph shows a direct linear relationship where the number of pages increases by one for every additional figure.